

receiving user equipment that the received object is a gallery according to the invention, not a GMS picture.

In the preferred embodiment, the gallery folder can also include GMS pictures, and in the preferred embodiment, the index provides a name for each object in the folder (and optionally a date and time indicating last update to the object), and indicates to the clip-part picture manager the location of the object in non-volatile memory (i.e. where the object is stored). Thus, a gallery folder according to the invention is more generally called an *image object folder*, and the index may have for example the following content: (GMS) picture 1, picture 2, ..., picture N, gallery 1, gallery 2, ..., gallery M, picture N+1,

Clip-art picture editor module

Referring again to Fig. 1, the (clip-art picture) editor module of the invention enables users of a mobile phone to create and modify their own clip-art pictures, and then save the pictures in a gallery in the gallery folder 14 stored in non-volatile memory of the mobile phone. Besides creating a clip-art picture (14x18 pixels or some other size less than 72x28 pixels), the editor module enables users to create pictures in other formats, such as the GMS picture message format (72x28 pixels), or one or another screen saver format (72x28 pixels or 86x52 pixels).

Referring now to Fig. 4, a mobile phone of a type in which the invention can be implemented are shown. The phone, which is generally designated by 41, comprises a user interface having a keypad 42, a display 43, an on/off button 44, a speaker 45, and a microphone 46 (only openings are shown). The phone according to the preferred embodiment is adapted for communication via a

cellular network, but could have been designed for a cordless network as well. According to the preferred embodiment the keypad 42 has a first group 47 of keys as alphanumeric keys, a soft key 48, a clear key 49, and a navigation key or a scroll key 40. (A soft key is a key with which a function is associated that depends on the state of the mobile phone. There can be one or more such soft (function) keys, although in Fig. 4, only a single soft key is shown. The particular function that is associated with a soft key is indicated in the display of the mobile phone.) The present functionality of the soft key 48 is shown in a separate field in the display 43 just above the key 48.

In the preferred embodiment, in creating a clip-art picture a user uses keys of the mobile phone as cursor keys and so in effect uses the keypad as a (virtual) pen. The "pen" can be in one or another of the following states: off, black, white, or dotted. Selecting black, white or dotted turns the pen on in the selected state. The pen state can also be toggled on and off using scroll keys: *scroll up* turns the pen off, and *scroll down* turns it on in the previously selected state. The user can toggle between line colors using the # key. Moving the cursor with the pen down draws a line wherever the cursor is moved. Pressing the 5 key toggles the current *pixel* color (black / white) without changing the pen state. A status indicator displayed on the screen is used to indicate the current pen state to the user.

As mentioned, the cursor keys are used to draw and also to move the cursor within a picture (without drawing). Keys 2 and 8 move the cursor vertically, and keys 4 and 6 move the cursor horizontally. Keys 1, 3, 7 and 9 move the cursor diagonally. A typing (short-duration pressing) of the number keys moves the

cursor one pixel at a time; the cursor can be made to move continuously by holding down a cursor key (via a typematic feature of the mobile phone).

5 It is of course also possible to provide an actual pen as part of the user equipment, and to have the mobile phone include a touch screen type of display screen, but in the preferred embodiment the cursor keys of a mobile phone are used to draw and otherwise move a cursor from one point to another on the mobile phone display screen, as explained above. In the
10 preferred embodiment, a user is able to select various objects to insert into a picture, such as a circle, a rectangle, a line, or some other pre-defined shape. When the user inserts such an object into a clip-art picture, the user can use keys of the mobile phone keypad to scale the object, i.e. e.g. the "1" key would scale the object to a first, smallest size, the "2" key to the next larger size, and so on.

Also in the preferred embodiment, a user interface is provided enabling a user to select all or some of a clip-art picture and provide a clip-art picture or component thereof that is the mirror image, or the inverted image (black pixels to white pixels and conversely), or the filled image thereof. The user interface also provides, in the preferred embodiment, pre-drawn components (what is often called clip-art in drawing
20 software packages) and enables the user to select such a component and add it to an existing picture. For example, a user could select pre-drawn sunglasses and add them to a smiley face picture.

Whether a pen or a cursor is used to create a drawing, in indicating a line (or curve) in a drawing, attributes of the
30 line (or curve) can be selected from a menu. Thus, for example, a menu can be invoked (using one or another key on the keypad